3. Population, Land Use, and Traffic

3

In order to fulfill the objectives of an adequate thirty-year transportation plan, reliable forecasts of future travel patterns must be achieved. Such forecasts depend on careful analysis of the following items: historic and potential population changes; significant economic trends, character and intensity of land development; and the ability of the existing transportation system to meet existing and future travel demand. Secondary items that influence forecasts include the effects of legal controls such as zoning ordinances and subdivision regulations, availability of public utilities and transportation facilities, and topographic and other physical features of urban areas located within the county.

3.1 Population

Since the volume of traffic on a roadway is related to the size and distribution of the population that it serves, population data is used to aid the development of the transportation plan. Future population estimates typically rely on the observance of past population trends and counts. **Figure 4** presents the population trends for Yadkin County and North Carolina. This data was provided by the North Carolina State Data Center.

Figure 4: Population Growth

Location	1970	1980	1990	2000	2030
North Carolina	5,082,059	5,881,766	6,628,637	8,046,485	12,447,597
Yadkin County	24,599	28,439	30,488	36,348	56,173

Figure 4: Yadkin County Population Growth

3.2 Land Use

Land use refers to the physical patterns of activities and functions within an area. The generation and attraction of trips created by the land use along a particular transportation facility are related to the types of land use adjacent to that facility and the intensity of land use affects the traffic patterns for multi-modal facilities. For example, a shopping center generates larger traffic volumes than a residential area. The spatial distribution of varying land uses is the predominant determinant of when, where, and why congestion occurs. The attraction between different land uses and their association with travel varies with the size, type, intensity, and spatial separation